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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,017	02/25/2005	Eva Wagner	266138US0PCT	4210
22850 7590 01/27/2009 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER GILLESPIE, BENJAMIN				
ART UNIT		PAPER NUMBER		
1796				
NOTIFICATION DATE		DELIVERY MODE		
01/27/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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### Office Action Summary

**Application No.**

10/526,017

**Applicant(s)**

WAGNER ET AL

**Examiner**

BENJAMIN J. GILLESPIE

**Art Unit**

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 October 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 23-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 23-44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SG/US)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
2. Claims 23-25, 27-41, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuroda et al (EP 0,965,604) in view of Bradford et al (US 2003/0083397) and Hirata et al (EP 566,037). Kuroda et al teach a coating composition comprising a polyurethane that is the reaction product of (A) allophanate modified polyisocyanate, (B) hydroxylalkyl (meth)acrylate, (C) and N-hydroxylalkyl-oxazolidine, in the presence of (D) dibutyltin dilaurate catalyst. Component (A) is a NCO-terminated prepolymer produced by reaction (Ai) diisocyanate with (Aii) low molecular weight diol and/or triol (Paragraphs 2, 6, 7, 10, and 30). In particular, (Aii) consists of compounds such as ethylene, propylene, and neopentyl glycol, as well as 1,1,1-tris(hydroxymethyl)propane, which is chemically synonymous with trimethylolpropane (Paragraph 8).

3. Regarding the claimed polyurethane backbone architecture of claim 8, although it is not explicitly disclosed by patentees, it would inherently be shared since Kuroda et al teach identical reactants present in corresponding amounts; (B) and (C) are present relative to (A) in an NCO:OH ratio of 2:1 (Paragraphs 9, 11, and 17). Finally, regarding the limitations of claims 14 and 15, paragraph 51 and 53 teach wooden and metallic substrates, and based on the presence of the acrylate groups, the polyurethane would inherently be radiation curable. However, patentees fail to teach the methodology of claims 34-36 or a dispersion comprising said composition.
4. Bradford et al also teach a radiation-curable, water-dispersible coating composition comprising the reaction product of (A) allophanate modified polyisocyanate, (B) hydroxylalkyl (meth)acrylate, (C) N-Hydroxylalkyl-oxazolidine in the presence of photo/thermal initiators and anionic emulsifiers (Paragraphs 23, 33, 38, 44, 67, 69, 94, 96, 98, and 99). Furthermore, said coating composition is applied to an automotive part, then exposed to radiation in an inert environment, and heated to a temperature between 120°F and 350°F (Paragraphs 109, 119, and 124). This dual cure method results in coating compositions that has enhanced surface properties without substantial emissions during curing, and the presence of emulsifiers eliminates the need for organic solvent (Paragraph 21 and 99).
5. Therefore, it would have been obvious to include the initiators and dual cure methodology of Bradford et al in Kuroda et al since it is disclosed as being useful in producing superior final coatings that have decreased emissions during curing. Similarly, it would have been obvious to include the anionic emulsifiers in Kuroda et al since it would render the polyurethane water-dispersible and eliminate the need for organic solvent which is harmful to the user and environment. It also would have been obvious to apply the coating of Kuroda et al on

an automotive part since Bradford et al teach such applications are suitable for similar compositions, and the prima facie case of obviousness rises from the expectation that compounds similar in structure will have similar properties. *In re Gyurik*, 596 F.2d 1012, 201 USPQ 552 (CCPA 1979).

6. Regarding the claimed allophanate content, the examiner would like to again point out that Kuroda et al and Bradford et al teach allophanate modified polyisocyanate, wherein their production is disclosed by numerous U.S. and foreign patents such as U.S. Patents 5,258,482 and 5,290,902 as well as Hirata et al (EP 0 566 037). Hirata et al, teach allophanate modified polyisocyanate is produced in the presence of quaternary ammonium hydroxide or carboxylate catalyst, and the degree of allophanation is between 15 and 60 wt%, which is taken to satisfy the range of claims 23 and 44 (Page 4 lines 49-52; page 5 lines 9-12). Therefore it would have been obvious to arrive at applicants' the claimed allophanate content it is disclosed as being a suitable amount as established by Hirata et al. What's more it would have been obvious to utilize the catalyst of claim 29 since they are disclosed as being useful in the production of the relied upon allophanates and it is prima facie obvious to add a known ingredient for its known function. *In re Linder* 173 USPQ 356; *In re Dial et al* 140 USPQ 244.

7. Claims 23-25, 27-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuroda et al (EP 0,965,604) in view of Bradford et al (US 2003/0083397) and Hirata et al (EP 566,037) in further view of Leitner et al ('655). As previously discussed, the prior art render obvious a water-dispersible coating composition comprising the reaction product of (A) polyisocyanate, (B) hydroxylalkyl (meth)acrylate, (C) N-Hydroxylalkyl-oxazolidine, however

patentees fail to teach an additional reactant consisting of an isocyanate-reactive compound that has one actively dispersing group.

8. Leitner et al teach a coating composition comprising a polyurethane that is the reaction (A) polyisocyanate, (B) hydroxylalkyl(meth)acrylate, (C) and N-hydroxylalkyl-oxazolidine (Abstract; col 1 lines 60-68; col 3 lines 3-11). Patentees go on to explain that the binder may be rendered water-dispersible by neutralizing basic groups in the polymer backbone with acid (Col 3 lines 38-64). Therefore, it would have been obvious to also include the water-dispersing groups of Leitner et al in Kuroda et al since both teach analogous compositions, and the additional component of Leitner et al provides a coating that has decreased toxicity.

9. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuroda et al (EP 0,965,604) in view of Bradford et al (US 2003/0083397) and Hirata et al (EP 566,037) and in further view of Bruchmann et al ('569). Aforementioned, the prior art render obvious a water-dispersible coating comprising the reaction product of (A) polyisocyanate, (B) hydroxylalkyl (meth)acrylate, (C) N-Hydroxylalkyl-oxazolidine, however patentees fail to disclose the other amino-capped groups listed in claim 6. Bruchmann et al also teach a polyurethane coating comprising polyisocyanate and isocyanate-reactive amino-capped compounds, such as hydroxyl-functional oxazolidines, aldimines and ketimines (Col 1 lines 5-11, 47-50, col 2 lines 53-67, col 3 lines 10-15, col 4 lines 23-28; col 6 lines 63-67, col 7 lines 28-35).

10. Thus, it would have been obvious to one of ordinary skill in the art at the time of invention to include aldimine and ketimine groups in Kuroda et al, based on the teachings of Bruchmann et al that establish they are suitable equivalents for oxazolidines and the mere substitution of an equivalent (something equal in value or meaning, as taught by analogous prior

art) is not an act of invention; where equivalency is known to the prior art, the substitution of one equivalent for another is not patentable. *In re Ruff* 118 USPQ 343 (CCPA 1958).

***Response to Arguments***

11. Applicant's arguments, filed 10/31/2008, with respect to the rejection of the claimed invention have been fully considered and are rendered moot in view of the newly applied rejection. The new rejection addresses applicants' position regarding the allophanate content.
12. Furthermore, the examiner notes applicants' remarks stating the allophanate groups form during the reaction of claimed components a), b), c), d), e), and f). The examiner also notes that the relied upon allophanate groups are already present in component (A) prior to the reaction with components (B) and (C), however, based on the language of the claims 23, 42, and 44, the prior art still satisfies applicants' claimed invention.
13. Independent claims 23, 42, and 44 do not require component a) to be unmodified polyisocyanate, i.e. monomeric diisocyanate, and the phrase "said reaction components reacting under such conditions that form a product that contains an allophanate fraction ranging from 5 to 65 mol%" does not require any allophanate forming reaction to take place during the reaction of components a), b), c), d), e), and f). Furthermore, even if applicants maintain that the claim language requires the allophanate modification only during the reaction of a), b), c), d), e), and f), it is the examiner's position the resulting polyurethane is not patentably distinct from what is rendered obvious by the prior art.

***Conclusion***

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

15. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BENJAMIN J. GILLESPIE whose telephone number is (571)272-2472. The examiner can normally be reached on 8am-5:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

17. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR



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system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Rabon Sergent/  
Primary Examiner, Art Unit 1796

B. Gillespie